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10/798,422	03/12/2004	Seiji Horino	Q79112	6553
23373 7590 01/25/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER ROJAS, OMAR R	
			ART UNIT	PAPER NUMBER
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SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/25/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/798,422

Applicant(s)

HORINO ET AL.

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-27, 29-32, 34, 35, 37-45, and 49 is/are rejected.
- 7) ☒ Claim(s) 6-11, 28, 33, 36 and 46-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☒ Other: Detailed Action.

DETAILED ACTION

Response to Amendment

1. With regards to the amendment filed on November 22, 2006, all the requested changes to the claims have been entered. Claims 1-49 are pending.

Response to Arguments

2. Applicant's arguments filed November 22, 2006 (hereinafter "the Response") have been fully considered but they are not persuasive.

3. **Rejections Under 35 U.S.C. § 102**

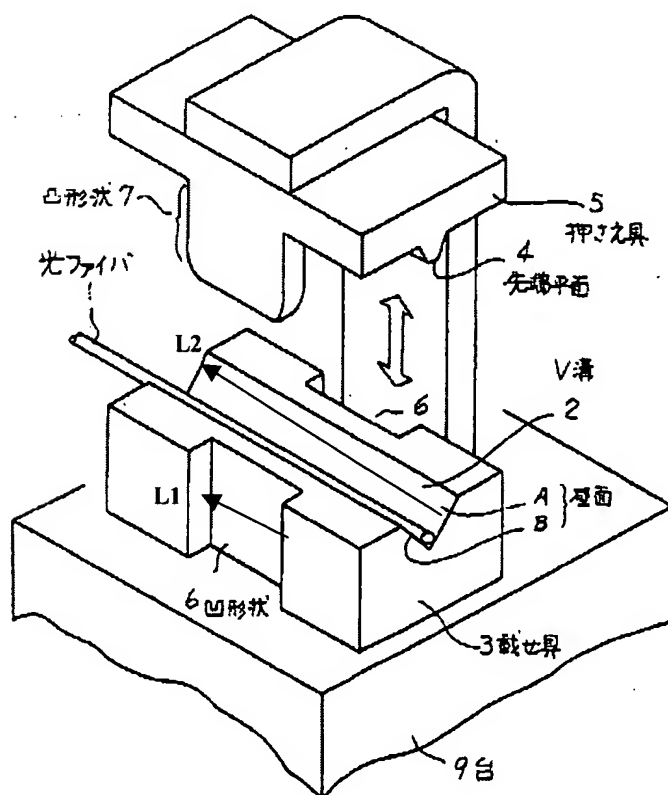
With respect to the Parat reference, applicant(s) essentially argue that "*Parat* does not disclose a protrusion which is substantially perpendicular to the direction of the groove of the body, thus, independent claim 1 patentably distinguishes over the prior art". See page 13 of the Response. However, the protrusion 10 of Parat (see Fig. 14 of Parat) has a thickness "H4" which extends in a downward direction (i.e., in the direction of the double arrows shown in Fig. 14). This direction is clearly perpendicular to the direction of the groove holding the optical fiber 2. Thus, Parat does, in fact, disclose a protrusion 10 that is substantially perpendicular to the direction of the groove of the body 66.

With respect to the Sherrer reference, applicant(s) argument is essentially the same as that made with respect to Parat. Applicant(s) argue that Sherrer does not disclose at least the "pressing body comprising a protrusion, formed on a first surface thereof, and extending substantially perpendicular to the first groove". See Page 13 of the Response. Applicant(s) are reminded, however, that the protrusion 336 shown by Sherrer represents a real, three-dimensional object. In other words, the protrusion 336 inherently takes up space in at least three

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different directions. At least one of these different directions is also inherently perpendicular to the direction of the first groove 326 that extends from left to right in Fig. 12 of Sherrer. Thus, Sherrer does, in fact, disclose a protrusion 336 that is substantially perpendicular to the direction of the groove 326 of the body 322.

With respect to the Igarashi reference, applicant(s) are reminded that the grooves 2 and 6 shown by Igarashi also represent real, three-dimensional objects. Both grooves inherently have a length, a width, and a depth. For applicant's convenience, Figure 1 of Igarashi has been modified to show the length dimensions of the grooves 2 and 6. These length dimensions have been labeled as "L2" and "L1". The modified Figure 1 of Igarashi is show below.



本発明の一実施例の斜視図

第 1 図

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As seen in the modified Fig. 1 of Igarashi, the length L1 of groove 6 extends in the same general direction as the length L2 of groove 2. Thus, the grooves 2 and 6 of Igarashi extend in the same direction and, therefore, also anticipate claim 1.

4. Rejections Under 35 U.S.C. § 103

With respect to applicant's arguments concerning the combination of Parat and Tamekuni on page 15 of the Response, these are not found persuasive for the reasons given above with respect to the Parat reference.

With respect to applicant's arguments concerning the combination of Sherrer and Tamekuni on pages 15-16 of the Response, these are not found persuasive for the reasons given above with respect to the Sherrer reference.

Applicant's arguments, see pages 16-17 of the Response, with respect to claims 3, 6-11, and 46 have been fully considered and are persuasive. The 103 rejection of claims 3, 6-11, and 46 has been withdrawn.

With respect to claims 30 and 31, applicant's arguments concerning the combination of Parat, Tamekuni, and Applicant's Prior Art on pages 16-17 of the Response, are not persuasive for the following reason. Applicant(s) have not specifically addressed the limitations of claims 30 and 31 nor have applicant(s) specifically addressed the combination of Figure 1 of Applicant's Prior Art with Parat in view of Tamekuni.

With respect to claims 12-17, applicant's arguments on pages 17-18 of the Response are not found persuasive for the reasons given above with respect to the Parat reference.

Furthermore, with respect to claim 15, a mere change in shape (i.e., using a prismatic cross-section) has been held unpatentable as a matter of law. *In re Dailey*, 357 F.2d 669, 149 USPQ

47 (CCPA 1966).

With respect to claims 19-27, applicant's arguments on pages 18-19 of the Response are not found persuasive for the reasons given above with respect to the Sherrer reference.

Applicant's arguments, see pages 19-20 of the Response, with respect to claims 33 and 36 have been fully considered and are persuasive. The 103 rejection of claims 33 and 36 has been withdrawn.

With respect to claims 44 and 45, applicant's arguments on pages 20-21 of the Response are not found persuasive for the reasons given above with respect to the Igarashi reference.

With respect to claims 38, 39, 41, and 42, applicant's arguments on page 21 of the Response are not found persuasive for the reasons given above with respect to the Igarashi reference.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 1, 2, 4, and 29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US 6,435,733 B1 to Parat et al. ("Parat").**

In re claim 1, Parat discloses in Figure 14, an optical fiber fixing system for fixing an optical fiber comprising:

a fixing body 66 comprising a first groove, formed in a top surface thereof, extending in a first direction to support the optical fiber 2 along its axial direction; and

a pressing body 8 comprising a protrusion 10, formed on a bottom surface thereof, and extending substantially perpendicularly to the direction of the first groove, wherein the bottom

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surface of the pressing body 8 faces the top surface of the fixing body 66. Figure 14 of Parat is reproduced below.

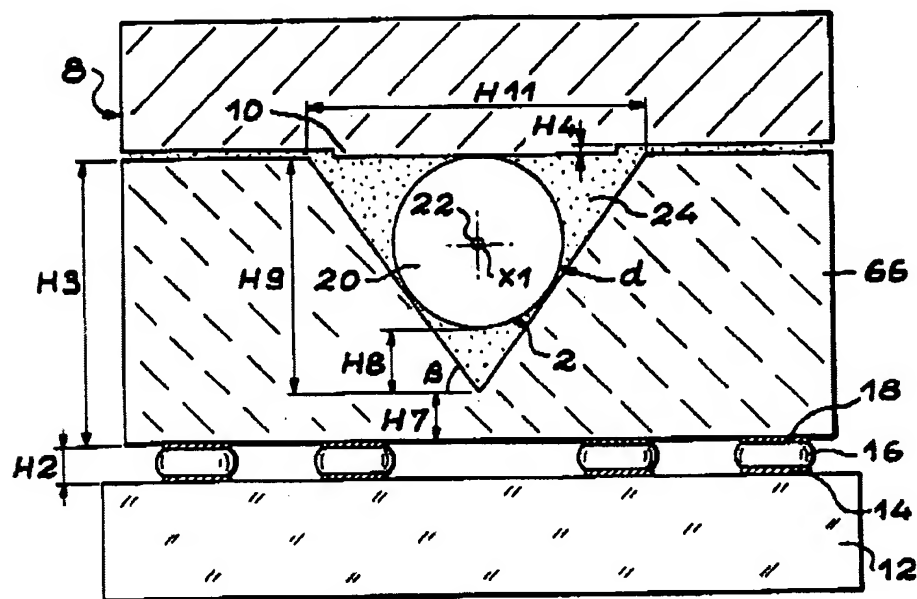


FIG. 14

In re claim 2, the bottom surface of the pressing body 8 and the top surface of the fixing body 66 are substantially planar.

In re claim 4, the cross section of the first groove is V-shaped as seen in Figure 14.

In re claim 29, the pressing body 8 is movable towards the fixing body 66 so that the optical fiber 2 is fixed therebetween by the protrusion 10 pressing the optical fiber 2 against the first groove (col. 11, lines 53-55).

7. Claims 1-4 and 18 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by US 7,079,725 B2 to Sherrer et al. ("Sherrer").

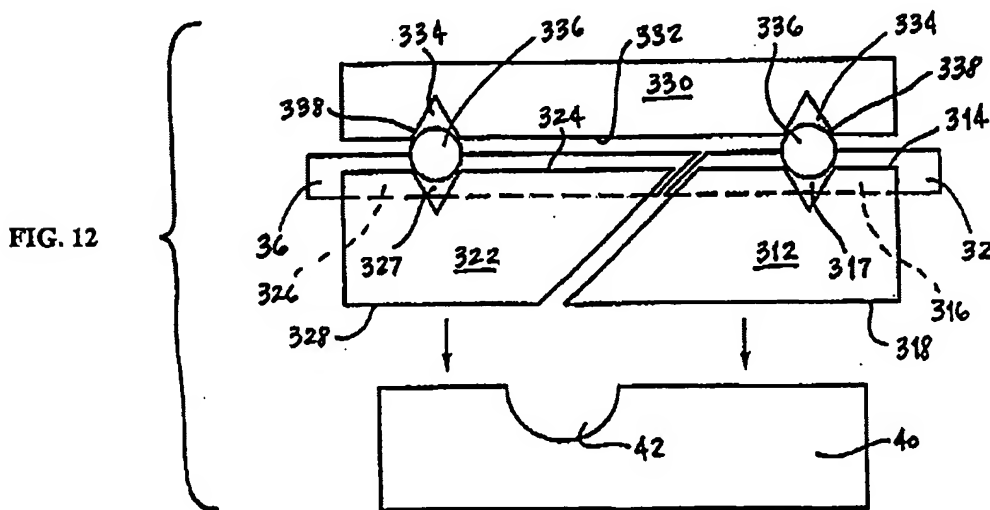
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In re claim 1, Sherrer discloses in Figures 12-13, an optical fiber fixing system for fixing an optical fiber comprising:

a fixing body 322 comprising a first groove 326, formed in a top surface 324 thereof, extending in a first direction to support the optical fiber 36 along its axial direction; and

a pressing body 330 comprising a protrusion 336, formed on a bottom surface 332 thereof, and extending substantially perpendicularly to the direction of the first groove 326, wherein the bottom surface 332 of the pressing body faces the top surface 324 of the fixing body.

Figure 13 of Sherrer is reproduced below.



In re claim 2, the bottom surface 332 of the pressing body 330 and the top surface 324 of the fixing body 322 are substantially planar.

In re claim 3, when the optical fiber 36 is supported in the first groove 326, a ridgeline of the optical fiber 36 protrudes out of the first groove above the top surface 324 of the fixing body 322.

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In re claim 4, the cross section of the first groove 326 is inherently V-shaped because a V-shape is considered a well-known conventional shape to use in order to hold optical fibers.

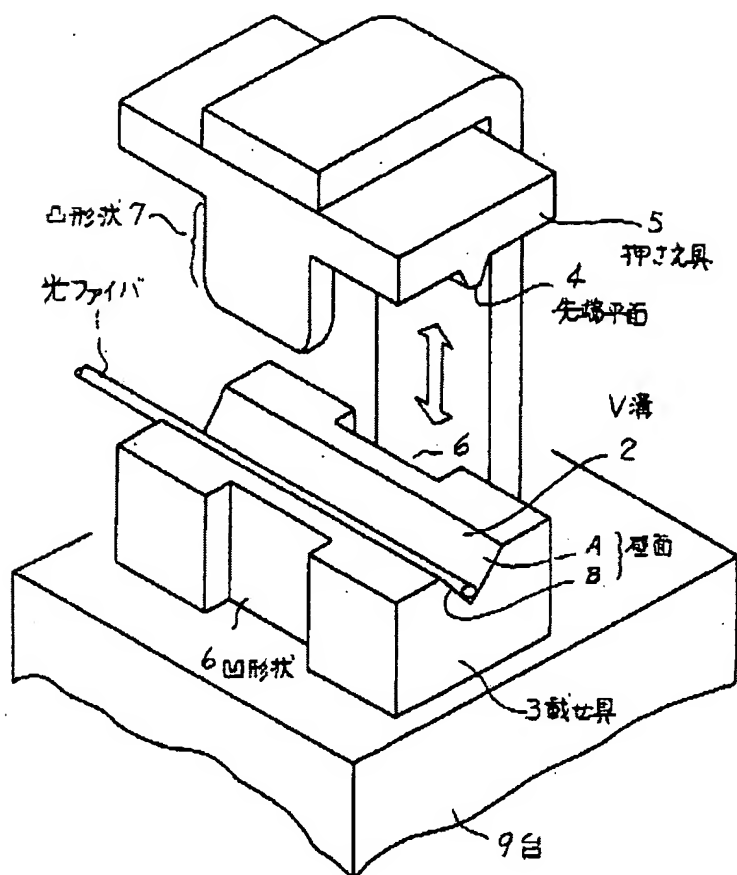
In re claim 18, the protrusion 336 is arranged in a precision mounting groove 334 formed in the bottom surface 332 of the pressing body 330. The protrusion 336 is inherently formed of a material different from that of the pressing body 330 because there are only two possible alternatives (i.e., they are both either formed of the same material or of a different material).

8. Claims 32, 34, 35, 37, 40, 43, and 49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 01013505 to Igarashi et al. ("Igarashi").

In re claim 32, Igarashi discloses an optical fiber fixing system (Figures 1 and 2) for fixing an optical fiber comprising:

a fixing body 3 comprising a first groove 6 formed in a first surface thereof, and a second groove 2 formed in a second surface thereof, both extending in a first direction to support the optical fiber 1 along its axial direction; and

a pressing body 5 comprising a planar clamp portion 7 facing the first surface of the fixing body 3, and a guide portion 4 facing the second surface of the fixing body 3 and comprising two sloped portions configured to interface with the second groove 2 to align the optical fiber therein. Figure 1 of Igarashi is reproduced below.



本発明の一実施例の斜視図

図 1

In re claim 34, the guide portion 4 further comprises a bottom surface arranged between the two sloped portions as seen in Figure 1.

In re claim 35, the fixing body 3 and pressing body 5 are arranged adjacently to fix the optical fiber 1 therebetween, the bottom surface of the guide portion 4 is located above the ridgeline of the optical fiber 1 supported in the second groove 2.

In re claim 37, the first surface of the pressing body 5 and the first surface of the fixing body 3

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are substantially planar.

In re claim 40, the first groove 6 is shorter than the second groove 2 when measured in the first direction.

In re claim 43, at least one of the fixing body 3 and pressing body 5 is movable towards the other so that the optical fiber may be fixed therebetween as disclosed in the English Abstract of Igarashi.

In re claim 49, the sloped portions of the guide portion 4 protrude into the second groove 4 to align the optical fiber 1 therein as disclosed in the English Abstract of Igarashi.

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parat as applied to claim 1 above, and further in view of Patent No. 5,993,070 to Tamekuni et al. ("Tamekuni").

In re claim 1, Parat only differs from the claim in that a trapezoid-shape is not explicitly disclosed. Tamekuni, on the other hand, discloses that V-shaped and trapezoidal-shaped grooves are equivalent structures for holding optical fibers (Tamekuni, column 7, lines 50-62).

Interchanging equivalent structures is generally a matter of obvious design choice. Therefore, it

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would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 5 in view of Parat combined with Tamekuni.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherrer as applied to claim 1 above, and further in view of Tamekuni.

In re claim 1, Sherrer only differs from the claim in that a trapezoid-shape is not explicitly disclosed. Tamekuni, on the other hand, discloses that V-shaped and trapezoidal-shaped grooves are equivalent for holding optical fibers (Tamekuni, column 7, lines 50-62). Interchanging equivalent structures is generally a matter of obvious design choice. Therefore, it would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 5 in view of Sherrer combined with Tamekuni.

12. Claim 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parat as applied to claim 1 above and further in view of Applicant's admitted prior art ("APA").

In re claims 30 and 31, Parat only differs from the claims in that Parat does not disclose a pair of the optical fiber fixing system shown in his Fig. 14 for respectively fixing a pair of optical fibers set up at an equal distance from a butting section and fusion-splicing the optical fibers. APA, as seen in Figure 1 of the application drawings, discloses a pair of optical fiber fixing systems 105 for respectively fixing a pair of optical fibers 103 set up at an equal distance from a butting section 107 and fusion-splicing the optical fibers (see paragraph [06] of the specification). The motivation for combining APA with Parat is to increase the transmission distance by adding additional optical fiber to Parat using a known optical fiber fusion-splicing system from the prior art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

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claimed invention to obtain the invention specified by claims 30 and 31 in view of Parat combined with APA.

13. Claim 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parat as applied to claim 1 above.

In re claim 12, Parat only differs from the claim in that the protrusion 10 of Parat appears to have a semi-rectangular cross-section rather than a semi-cylindrical cross-section as recited by claim 12. It would have been simple to obtain a semi-cylindrical cross-section in Parat by merely rounding off the edges of the protrusion 10. The motivation for doing so would be to avoid sharp edges that could damage the optical fiber when pressing against it. Therefore, it would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 12 in view of Parat.

In re claims 13 and 14, the invention of claim 12 has been shown to be obvious in view of Parat. Thus, Parat further differs from claims 13 and 14 in that neither ceramic nor metal is disclosed. However, ceramic and metal are well-known materials used in optical fiber fixing systems. It would have been desirable to choose ceramic or metal to form the pressing body 8 of Parat in order to obtain added strength, durability, and/or ease of manufacturing. Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 13 and 14 in view of Parat.

In re claim 15, Parat only differs from the claim in that a prismatic shape is not disclosed. A change in shape without a perceived criticality has been held as a matter of obvious design

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choice. See MPEP § 2144.04. Therefore, because no perceived criticality is disclosed by applicant(s) for the use of a prismatic shape, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claim 15 in view of Parat.

In re claims 16 and 17, the invention of claim 15 has been shown to be obvious in view of Parat. Thus, Parat further differs from claims 16 and 17 in that neither ceramic nor metal is disclosed. However, ceramic and metal are well-known materials used in optical fiber fixing systems. It would have been desirable to choose ceramic or metal to form the pressing body 8 of Parat in order to obtain added strength, durability, and/or ease of manufacturing. Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 16 and 17 in view of Parat.

14. Claim 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherrer as applied to claims 1 and 18 above.

In re claims 19-21, Sherrer only differs from these claims in that Sherrer is silent as to the material(s) used for the pressing body 330 and the protrusion 336. However, resin, ceramic, and metal are well-known materials used in optical fiber fixing systems. It would have been desirable to use resin to form the pressing body 330 of Sherrer and ceramic or metal to form the protrusion 336 in order to obtain added strength, durability, and/or ease of manufacturing. Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 19-21 in view of Sherrer.

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In re claims 22-24, the use of ceramic or metal has been shown to be an obvious design choice in Sherrer. Thus, Sherrer further differs from claims 22-24 in that the protrusion 336 of Sherrer appears to have a circular cross-section rather than a cylindrical cross-section as recited by claim 22. A change in shape without a perceived criticality has been held as a matter of obvious design choice. See MPEP § 2144.04. Therefore, because no perceived criticality is disclosed by applicant(s) for the use of a cylindrical shape, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 22-24 in view of Sherrer.

In re claims 25-27, the use of ceramic or metal has been shown to be an obvious design choice in Sherrer. Furthermore, the protrusion 336 may be considered integral with the pressing body 330 because it is adhered to the pressing body by adhesive. Thus, Sherrer further differs from claims 25-27 in that the protrusion 336 of Sherrer appears to have a circular cross-section rather than a prismatic cross-section as recited by claim 25. A change in shape without a perceived criticality has been held as a matter of obvious design choice. See MPEP § 2144.04. Therefore, because no perceived criticality is disclosed by applicant(s) for the use of a prismatic shape, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 25-27 in view of Sherrer.

15. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi as applied to claim 32 above, and further in view of APA.

In re claims 44 and 45, Igarashi only differs from these claims in that Igarashi does not disclose a pair of his optical fiber fixing system shown in Fig. 1 for respectively fixing a pair of optical

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fibers set up at an equal distance from a butting section and fusion-splicing the optical fibers.

APA, as seen in Figure 1 of the application drawings, discloses a pair of optical fiber fixing systems 105 for respectively fixing a pair of optical fibers 103 set up at an equal distance from a butting section 107 and fusion-splicing the optical fibers (see paragraph [06] of the specification). The motivation for combining APA with Igarashi is to increase the transmission distance by adding additional optical fiber to Igarashi using a known optical fiber fusion-splicing system from the prior art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 44 and 45 in view of Igarashi combined with APA.

16. Claims 38, 39, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi as applied to claim 32 above.

In re claims 38 and 39, the second groove 2 of Igarashi has a V-shaped cross-section as seen in Figure 1. Thus, Igarashi only differs from claims 38 and 39 in that Igarashi does not suggest using a V-shaped or trapezoidal-shaped cross-section for the first groove 6. Instead, the first groove 6 of Igarashi has a simple rectangular-shaped cross-section as seen in Figure 1. The motivation for using a V-shaped or trapezoidal-shaped cross-section in Igarashi would be provide a more aesthetic look by changing the shape of the first groove 6 to comprise a more visually pleasing cross-section. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 38 and 39 in view of Igarashi.

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In re claims 41 and 42, Igarashi only differs from these claims in that Igarashi is silent as to the material(s) used for the pressing body 5. Ceramic and metal are well-known materials used in optical fiber fixing systems. It would have been desirable to choose ceramic or metal to form the pressing body 5 of Igarashi in order to obtain added strength, durability, and/or ease of manufacturing. Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claims 41 and 42 in view of Igarashi.

Allowable Subject Matter

17. Claims 6-11, 28, 33, 36, and 46-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 6-11, 28, 33, 36, and 46-48, the claims are deemed allowable in view of applicant's arguments filed November 22, 2006 concerning claims 6-11, 33, 36, and 46.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

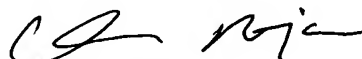
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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (12:00PM-8:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Omar Rojas
Patent Examiner
Art Unit 2874

or
January 15, 2007



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Supervisory Patent Examiner
Technology Center 2800